



RULE-MAKING ORDER

CR-103 (June 2004)
(Implements RCW 34.05.360)

Agency: Washington State Patrol

Permanent Rule
 Emergency Rule

Effective date of rule:

Permanent Rules

31 days after filing.
 Other (specify) _____ (If less than 31 days after filing, a specific finding under RCW 34.05.380(3) is required and should be stated below)

Effective date of rule:

Emergency Rules

Immediately upon filing.
 Later (specify) _____

Any other findings required by other provisions of law as precondition to adoption or effectiveness of rule?

Yes No If Yes, explain:

Purpose: TO CLARIFY AND AMEND SAFETY RULES TO MEET THE 2000 EDITION OF THE NATIONAL FIRE PROTECTION ASSOCIATION STANDARD #1123 FOR OUTDOOR PUBLIC FIREWORKS DISPLAYS SHOT FROM BARGES OF FLOATING VESSELS.

Citation of existing rules affected by this order:

Repealed:
Amended: WAC 212-17 SECTIONS--295, 310, 315
Suspended:

Statutory authority for adoption: RCW 43.43 and RCW 70.77

Other authority :

PERMANENT RULE ONLY (Including Expedited Rule Making)

Adopted under notice filed as WSR 06-09-073 on 04/18/06.

Describe any changes other than editing from proposed to adopted version:

None

Fax

EMERGENCY RULE ONLY

Under RCW 34.05.350 the agency for good cause finds:

- That immediate adoption, amendment, or repeal of a rule is necessary for the preservation of the public health, safety, or general welfare, and that observing the time requirements of notice and opportunity to comment upon adoption of a permanent rule would be contrary to the public interest.
- That state or federal law or federal rule or a federal deadline for state receipt of federal funds requires immediate adoption of a rule.

Reasons for this finding:

Date adopted: 5/24/06

NAME (TYPE OR PRINT)
John R. Batiste

SIGNATURE

TITLE
Chief

CODE REVISER USE ONLY

CODE REVISER'S OFFICE
STATE OF WASHINGTON
FIELD

MAY 26 2006

912

06-12-010

AM

(COMPLETE REVERSE SIDE)

**Note: If any category is left blank, it will be calculated as zero.
No descriptive text.**

**Count by whole WAC sections only, from the WAC number through the history note.
A section may be counted in more than one category.**

The number of sections adopted in order to comply with:

Federal statute:	New	_____	Amended	_____	Repealed	_____
Federal rules or standards:	New	<u>3</u>	Amended	3	Repealed	_____
Recently enacted state statutes:	New	_____	Amended	_____	Repealed	_____

The number of sections adopted at the request of a nongovernmental entity:

New	_____	Amended	_____	Repealed	_____
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The number of sections adopted in the agency's own initiative:

New	_____	Amended	_____	Repealed	_____
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The number of sections adopted in order to clarify, streamline, or reform agency procedures:

New	_____	Amended	_____	Repealed	_____
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The number of sections adopted using:

Negotiated rule making:	New	_____	Amended	_____	Repealed	_____
Pilot rule making:	New	_____	Amended	_____	Repealed	_____
Other alternative rule making:	New	_____	Amended	_____	Repealed	_____

AMENDATORY SECTION (Amending WSR 05-12-033, filed 5/24/05, effective 6/24/05)

WAC 212-17-295 Public display--General. (~~This section shall apply to the construction, handling, and use of Division 1.3G display or Division 1.4G consumer fireworks intended solely for public display. It shall also apply to the general conduct and operation of the display.~~) The intent of this chapter shall be to provide requirements for clearances upon which the authority having jurisdiction shall base its approval of an outdoor fireworks display site. Where added safety precautions have been taken, or particularly favorable conditions exist, the authority having jurisdiction shall be permitted to decrease the required separation distances as it deems appropriate, upon demonstration that the hazard has been reduced or the risk has been properly protected. Where unusual or safety-threatening conditions exist, the authority having jurisdiction shall be permitted to increase the required separation distances as it deems necessary.

AMENDATORY SECTION (Amending WSR 05-12-033, filed 5/24/05, effective 6/24/05)

WAC 212-17-310 Public display--Storage of shells. (~~(1) As soon as the fireworks have been delivered to the display site, they shall not be left unattended and shall be kept dry.~~

~~(2) All shells shall be inspected upon delivery to the display site by the display operators. Any shells having tears, leaks, broken fuses, or showing signs of having been wet shall be set aside and shall not be fired. After the display, any such shells shall either be returned to the supplier or be destroyed according to the supplier's instructions.~~

Exception: ~~Minor repairs to fuses shall be allowed. Also, for electrically ignited displays, attachment of electric matches and other similar tasks shall be permitted.~~

~~(3) All shells shall be separated according to diameter and stored in tightly covered containers of metal, wood, or plastic or in fiber drums or corrugated cartons meeting United States Department of Transportation specifications for transportation of fireworks. A flame-resistant tarpaulin shall be permitted to be used as a covering over the containers, if additional protection is desired.~~

~~(4) The shell storage area shall be located at a minimum distance of not less than 25 feet (7.6 m) from the discharge site.~~

~~(5) During the display, shells shall be stored upwind from the~~

~~discharge site. If the wind should shift during the display, the shell storage area should be relocated so as to again be upwind from the discharge site.)) A ready box shall be a portable, weather-resistant container that protects contents from burning debris with a self-closing cover or equivalent means of closure required.~~

~~(1) After delivery and prior to the display, all shells shall be separated according to size and their designation as salutes.~~

~~(2) Any display fireworks that will be temporarily stored at the display site during the fireworks display shall be stored in ready boxes separated according to size and their designation as salutes. Tarpaulins shall not be considered as ready boxes.~~

~~Exception: For electrically ignited displays, or displays where all shells are loaded into mortars prior to the show, there is no requirement for separation of shells according to size, for their designation as salutes, or for the use of ready boxes.~~

~~(3) During the performance of an outdoor fireworks display, ready boxes shall be located at a distance not less than twenty-five feet upwind from the mortar placements. If the wind shifts during a display, the ready boxes shall be located again to be upwind from the discharge site.~~

~~Exception No. 1: Where permitted by the authority having jurisdiction, alternate measures shall be taken.~~

~~Exception No. 2: Where there are no shells requiring storage during a display, such as for an electrically ignited display, no ready boxes shall be required.~~

AMENDATORY SECTION (Amending Order 90-02, filed 4/19/90, effective 5/20/90)

WAC 212-17-315 Public display--Installation of mortars.

~~((1) Mortars shall be inspected for dents, bent ends, and cracked or broken plugs prior to ground placement. Mortars found to be defective in any way shall not be used. Any scale on the inside surface of the mortars shall be removed.~~

~~(2) Mortars shall be positioned so that the shells are carried away from spectators and into a clear area acceptable to the authority having jurisdiction.~~

~~(3) Mortars shall be either buried securely into the ground to a depth of 2/3 to 3/4 of their length or fastened securely in mortar boxes or drums. In soft ground, heavy timber (e.g. 4-inch thick) or rock slabs shall be placed beneath the mortars to prevent their sinking or being driven into the ground during firing.~~

~~Exception: Boxed finals and final racks.~~

~~(4) In damp ground, a weather-resistant bag shall be placed under the bottom of the mortar prior to placement in the ground to protect the mortar against moisture.~~

~~(5) Weather-resistant bags shall be placed over the open end of the mortar in damp weather to keep moisture from accumulating on the inside surface of the mortar.~~

~~(6) Sand bags, dirt boxes, or other suitable protection shall be placed around the mortars to protect the operator from ground~~

~~bursts. This requirement shall not apply to the down-range side of the discharge site.~~

~~(7) Mortars shall be inspected before the first shells are loaded to be certain no water or debris has accumulated in the bottom of the mortar.~~

~~(8) If steel mortars are placed in troughs or drums, the minimum distance from the mortar to the wall of the trough or drum shall be at least two times the diameter of the mortar.~~

~~(9) If troughs and drums are used, they shall be filled with sand or soft dirt, in no case shall stones or other possibly dangerous debris be present.~~

~~(10) If mortars which are generally considered not capable of generating dangerous flying debris are placed in troughs or drums, the minimum distance from the mortar to the wall of the trough or drum shall be at least equal to the diameter of the mortar. Commonly used mortars which are considered generally not capable of generating dangerous flying debris include paper and high density polyethylene mortars.~~

~~(11) Whenever shells are to be chain fused, such as for barrages and finales, additional measures are required to prevent adjacent mortars from being repositioned in the event that a shell detonates in a mortar causing it to burst. For buried mortars, this shall be accomplished by placing the mortars with a minimum separation of four times their diameter. For mortars in racks this shall be accomplished by using mortar racks that have sufficient strength to successfully withstand such a failure.~~

~~(12) When mortars are to be reloaded during a display, mortars of various sizes shall not be intermixed. Mortars of the same size shall be placed in groups and the groups must be separated from one another.~~

~~To the extent practical, when mortars are to be reloaded during a display, groups of one size mortar should not be placed adjacent to mortars of only one inch different diameter. This will reduce the likelihood that shells will be loaded into oversized mortars. For example, an arrangement of mortar groups such as 5"-3"-6"-4" is greatly preferred over an arrangement such as 3"-4"-5"-6".~~

~~(13) Mortars may be constructed of steel, paper or high-density polyethylene.~~

~~(14) Steel mortars shall be deemed acceptable for use with all shells. Steel mortars shall be either seamed or seamless, however, seamed mortars must be placed such that the seam is facing either right or left as one faces the line of mortars. Steel mortars shall conform to the following:~~

MINIMUM MORTAR WALL THICKNESS (INCHES)

Mortar ID (in)	Spherical	Cylindrical Single-Break	Cylindrical Multi-Break
3	0.04	0.11	0.21
4	0.05	0.12	0.23
5	0.06	0.13	0.25
6	0.07	0.14	0.27

Mortar ID (in)	Spherical	Cylindrical Single-Break	Cylindrical Multi-Break
8	0.09	0.16	0.31
10	0.11	0.18	0.35
12	0.13	0.20	0.39

~~The tensile strength of steel pipe shall be at least 40,000 psi.~~

~~(15) Paper mortars shall only be used for discharge of single-break and double-break shells. A thirty second cooling period shall be allowed between firing and reloading of paper mortars. Paper mortars shall be constructed of convolute wound paper, except that spiral wound paper shall be permitted for 3-inch diameter mortars only. Paper mortars shall conform to the following:~~

MINIMUM MORTAR WALL THICKNESS (INCHES)

Mortar ID (in.)	Spherical	Cylindrical Single-Break	Cylindrical Two-Break
3	0.25	0.25	0.37
4	0.25	0.33	0.50
5	0.31	0.42	0.62
6	0.37	0.50	0.75
8	0.50	0.62	
10	0.62		
12	0.75		

~~The cross-grain tensile strength of the paper shall be at least 2,300 psi.~~

~~(16) Plastic reusable mortars shall be of high density polyethylene pipe, marked with identification markings "high density polyethylene" or "HDPE" and certified by "ASTM" with an accompanying certification standard identifier subscript. Plastic mortars shall conform to the following:~~

MINIMUM MORTAR WALL THICKNESS (INCHES)

Mortar ID	Spherical	Cylindrical Single-Break
3	0.15	0.20
4	0.20	0.26
5	0.25	
6	0.30	

~~The tensile strength of plastic shall be at least 3,500 psi.~~

~~(17) Mortars shall be of sufficient length to cause aerial shells to be propelled to safe heights. Mortar lengths shall conform to the following:~~

MINIMUM INSIDE MORTAR LENGTH (INCHES)

Mortar ID (in)	Single-Break	Double-Break	Up To 4-Break
3	15	18	21

Mortar ID (in)	Single- Break	Double- Break	Up To 4 -Break
4	20	23	27
5	24	28	32
6	28	32	37
8	34	40	46
10	40	46	54
12	46	52	62

~~(18) A cleaning tool shall be provided for cleaning debris out of the mortars between firings.~~

Exception: ~~When mortars are not to be reloaded during a display, there is no requirement for a cleaning tool.)~~

(1) Prior to placement, mortars shall be inspected carefully for defects, such as dents, bent ends, damaged interiors, and damaged plugs. Defective mortars shall not be used.

(2) Mortars shall be positioned and spaced so that shells are propelled away from spectators, over the fallout area, and to afford maximum protection to the shooter and loader. Under no circumstances shall mortars be angled toward the spectator viewing area.

(3) Where mortars are to be reloaded during a display, mortars of various sizes shall not be intermixed. Mortars of the same size shall be placed in groups, and the groups shall be separated from one another.

(4) Mortars of any type six inches in diameter or less shall be permitted to be reloaded and fired up to seven times during a performance.

Exception: There shall be no limit to the number of times a steel mortar six inches or less is permitted to be reloaded.

(5) Mortars shall be positioned to afford protection to the spectators and display personnel.

(6) Mortars shall be inspected before the first shells are loaded to ensure that no water or debris has accumulated in the bottom of the mortar.

(7) Mortars shall be of sufficient strength and durability to fire the aerial shells and be used safely.

(8) Paper, HDPE, and fiberglass mortars are among the types of mortar that shall be permitted to be used.

(9) Cast iron, stove pipe, corrugated culvert, clay, bamboo, and wood shall not be used to make mortars.

(10) Metal mortars shall be either seamed or seamless; however, seamed mortars shall be placed so that all seams face either right or left when viewing the line of mortars.

(11) Steel mortars used to fire single break salute shells shall be buried according to WAC 212-17-321.

(12) Mortars shall be of sufficient length to cause aerial shells to be propelled to safe heights.

(13) The dimension of the inside diameter of the mortar shall be conspicuously painted or otherwise marked on the top of the mortar.

Exception: Designation of the inside diameter shall not be required for outdoor fireworks displays fired under the direct control of a professional fireworks display company.

NEW SECTION

WAC 212-17-321 Public display--Installation of buried mortars. (1) Mortars shall be buried to a depth of at least two-thirds to three-quarters of their length, either in the ground or in aboveground troughs or drums.

(2) Where paper mortars are to be placed in damp ground or damp sand or are to be in the display, they shall be placed inside a water-resistant bag prior to placement in the ground.

(3) Wherever there is the likelihood of groundwater leaking into the mortar, the mortar shall be placed inside a water-resistant bag prior to placement in the ground.

(4) Weather-resistant coverings shall be placed over the mouth of mortars wherever there is imminent danger of water accumulating inside the mortar.

(5) Buried mortars shall be placed to prevent them from being driven into the ground or reangled when fired.

Exception: Where a mortar is to be used only once, such as for an electrically fired display, added support shall be optional and shall not be required.

(6) Mortars that are buried in the ground, in troughs, or in drums shall be separated from adjacent mortars by a distance at least equal to the diameter of the mortar.

Exception: Where electrical ignition of unchained aerial shells six inches and less in diameter is used, there is no requirement for separation of mortars.

(7) Mortars in troughs and drums shall be positioned to afford the maximum protection to the shooter.

(8) There shall be a separation distance of at least two inches or half the diameter of the mortar, whichever is greater, between the mortar and the trough or drum.

Exception: Where electrical ignition is used, all mortars placed in drums or troughs shall be spaced at least two inches from the wall of the drum or trough.

(9) If troughs and drums are used, they shall be filled with sand or soft dirt: In no case shall stones or other potentially dangerous debris be present.

(10) Troughs shall be reinforced or braced in a minimum of two places on the sides at intervals no greater than every four feet.

(11) Where possible, the narrow side of the trough shall face the greatest number of spectators and the firing progression shall develop in a direction away from the spectators.

NEW SECTION

WAC 212-17-323 Installation of mortar racks. (1) Single break shells not exceeding six inches in diameter shall be permitted to be fired from securely positioned mortar racks.

(2) Firing of single break shells that are seven or eight inches in diameter shall be permitted from securely positioned mortar racks provided the following conditions are met:

(a) The mortar is not metallic;

(b) Electrical or equivalent means of remote ignition is used

to fire the shell; and

(c) The shell is not chain fused to any other shells.

(3) Mortar racks or bundles shall be constructed in a thorough and workmanlike manner to be capable of holding multiple mortars in position during normal functioning.

(4) Mortar racks or bundles that are not inherently stable shall be secured or braced to stabilize them. Stabilization shall be accomplished by using stakes, legs, A-frames, side-boards or equivalent means.

(5) Mortar racks or bundles shall be oriented, angled, or oriented and angled in such a way that maximizes the audience's safety.

NEW SECTION

WAC 212-17-327 Requirements for chain fusing. (1) Wherever more than three shells are to be chain fused, such as for sequential firing, additional measures shall be required to prevent adjacent mortars from being repositioned in the event that a shell explodes in a mortar, causing it to burst.

(2) For buried mortars, prevention of repositioning shall be accomplished by spacing the mortars with a minimum separation distance of four times their diameter.

(3) For mortars in racks, prevention of repositioning shall be accomplished by mortar racks that have sufficient strength to withstand such a failure successfully.

(4) Chain-fused mortar racks shall be positioned to maximize the placement of racks perpendicular to spectator viewing areas.

(5) Chain-fused mortar racks containing mortars three inches or less in diameter shall be limited to a maximum of fifteen mortars per unit. Racks containing mortars four inches in diameter shall be limited to a maximum of twelve mortars. Racks containing mortars five to six inches in diameter shall be limited to a maximum of ten mortars. Chain-fused racks shall not be used for mortars greater than six inches.

Exception: Boxed finale items containing tubes two and one-half inches or less in diameter only shall not be required to comply with the limitation above.

(6) All chain-fused aerial fireworks devices, including those not in mortar racks such as roman candle batteries and multitube aerial items, shall be positioned securely to prevent tip over or hazardous movement during operation. This shall be accomplished by the use of stakes, racks, sandbags, earth, or equivalent means.

(7) Staple guns shall not be permitted to be used to secure quick match that is connected to aerial shells, mines, or comets.

(8) Chain-fused aerial shells shall not be permitted to be reloaded.